

Title (en)

IMPROVED DRIVE MEANS FOR OSCILLATING FLOW TUBES OF PARALLEL PATH CORIOLIS MASS FLOW RATE METER

Publication

**EP 0325601 B1 19920415 (EN)**

Application

**EP 87906265 A 19870908**

Priority

US 91528286 A 19861003

Abstract (en)

[origin: WO8802475A1] The basic meter is known and comprises two substantially parallel flow tubes (20, 22) having oscillation axes (W-W, W'-W') and torsion axes (T-T, T'-T'). A pair of sensors (36, 38) sense the movement of the flow tubes about these axes with the time difference between the outputs of these sensors being indicative of the mass flow rate of the fluid. A drive means oscillates the tubes and comprises a coil and magnet-keeper arrangement. The present invention provides improved drive means comprising a rare earth-iron magnet (46) having a toroidal configuration with a cup-shaped keeper member (48) disposed thereabout to form an annular spacing. The magnet and keeper are affixed to the midpoint of one of the tubes (20). A coil (62) is affixed to the other of the tubes with the coil interfitting into the annular spacing (49). The coil is so formed that the inductance does not exceed about nine millihenries. A drive circuit (64) generates a periodic driving potential which provides a driving current in the range of from about 50 mA to about 250 mA. The driving force is determined by the product of the drive current times coil turns times a predetermined constant. The drive means has a lower stored energy capability allowing the meter to be used in dangerous atmospheres such as hydrogen.

IPC 1-7

**G01F 1/84**

IPC 8 full level

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CPC (source: EP US)

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